



Transit Hotel in Transit Oriented Development Area

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Abstract. According to the Presidential Regulation of the Republic of Indonesia Number 62 The year 2011 on Spatial Plans of Medan, Binjai, Deli Serdang and Karo (Mebidangro), Pinang Baris was included in TOD Route Map. The commercial area will be redesigned by the division of each building function, corresponding to one of TOD's four segmentation divisions [1]. The building designed in this commercial area is a transit hotel due to its location right next to Pinang Baris Terminal, with the dominance of visitors with tourist destinations to Berastagi, Bukit Lawang, Tangkahan, Lake Toba or Aceh. Hotel Transit Pinang Baris is right in front of T.B Simatupangmain street, adjacent to Mall Pinang Baris, and fitted with Pinang Baris Market building. Inter-building integration will be applied to support the factor of commercial function in the built area. By raising the "Global Warming" Issues, the Pinang Baris Transit Hotel will apply the green architecture concept on a 2.7-hectare site area, with 1.1-hectare of land built, and overall 26.746m² building area and a maximum height of 4 floors according to local regulations. Then the hotel will be systematically designed using Glass-Box Method with form following hotel's site and standard. From the analysis, the hotel is a 3-star hotel. The transit hotel has 128 rooms, with 120 rooms of 6x4m standard size and eight rooms of 6x6m Deluxe size. Additional facilities are available at this Transit Hotel, by 3-star standards, i.e., coffee shop, bar, swimming pool, fitness, spa & sauna, and a ballroom. Thus Transit Pinang Baris Hotel with its implementation can be a place to stay that can meet the needs of visitors in the commercial area TOD Pinang Baris.

Keyword: hotel, TOD, green, architecture

1. Introduction

Transportation problems are undoubtedly happening in countries in the world especially in developing countries such as Indonesia. The number of modes, the pattern of transportation arrangements are chaotic. Ultimately many people are turning to private transportation; then the problem arises that the level of congestion increases, the level of human productivity decreases, with the addition of inadequate pedestrians, and then an economy problem.

Moreover Pinang Baris location is on the edge of the city of Medan, right at the entrance of the western terrain, and there is Pinang Baris Terminal, but unfortunately, this potential source of less attention to the government may be due to more government downtown. Some of the

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challenges that arise in designing some are the surrounding rules that only allow a maximum height of the 4-story building, 2.7 hectares site, and 1.1 hectares site built. And also with applying the standard of a 3-star hotel and the concept of green architecture, by raising the issue of global warming.

2. Literature Review

Before going into the concept analysis, the hotel division is reviewed to get what kind of hotel is going to be built. The classification of the hotel is divided by the area where the location of the hotel is, the length of the hotel guest to stay, the number of rooms and the standard of the star. The analysis of the circulation and parking, then for the results of a maximum re-design of the area is also done a comparative study TOD*. The first example in Canberra, Australia. Briefly, Canberra city has been highly integrated TOD between TOD. Canberra is a city with a bus system that accommodates the people in downtown and suburban areas developed by Australian Capital Territory with the concept of light rail network into a major transportation center with bus services and active travel (walking and cycling).

Recognize the concept of TOD in general and analyze the area of the site to be designed. The idea of the originator of TOD itself is Peter Calthorpe with the division of public functions, commercial center (core commercial), residential area, and the secondary area. The concept of Peter Calthorpe will be applied to the chosen site (Figure 1).

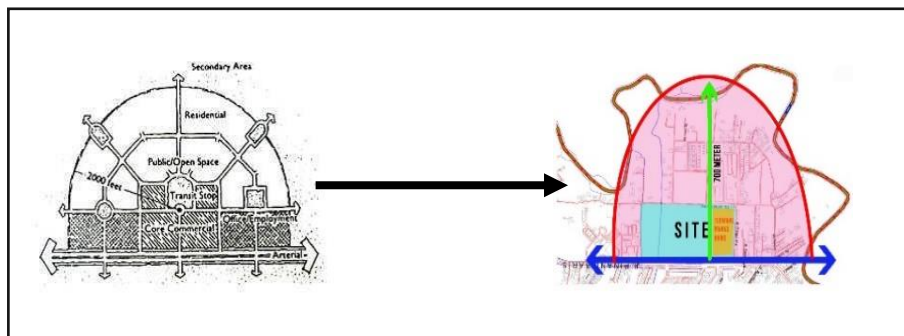


Figure 1. TOD application concept to the site
(Source: Peter Calthorpe, 1993)

The choice of what building function can be adjusted to the area applied by Peter Calthorpe. The zone closest to the terminal is commercial where the selected is a transit hotel, a market, and a mall. With a bridge between building functions, and retail in the middle to revive the area (Figure 2).

* *TOD: Transit Oriented Development

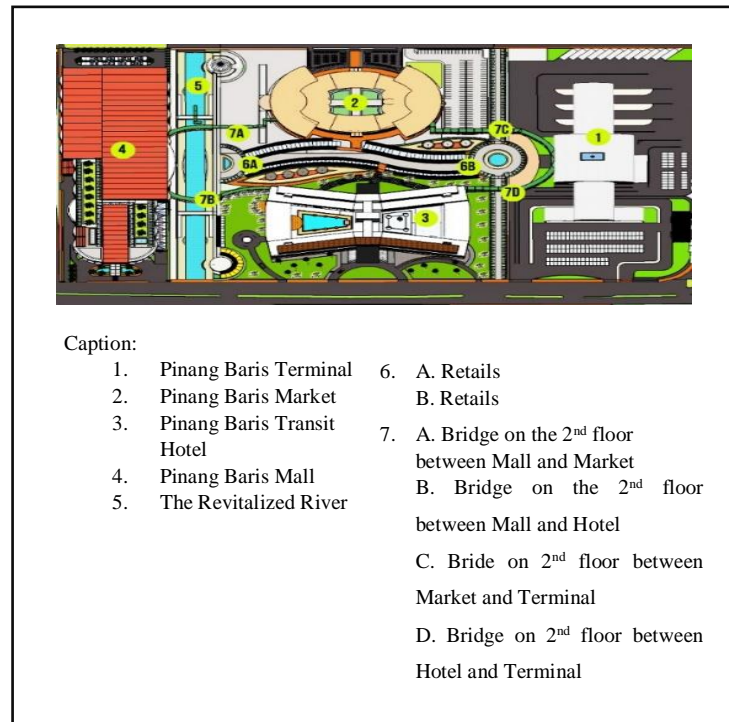


Figure 2. Final concept of TOD applied in site

The design of the site on the site will be designed to follow the flow of pedestrian circulation and the circulation of the vehicle. The pedestrian circulation is located on the left side of the terminal which becomes the entrance area of the outsider's pedestrian, the Medan Sunggal sub-district and the pedestrian in the middle of the land which is equipped with stalls so that the pedestrians seem to live, as a signpost entering the pedestrian from the outside will be designed gate in the front area (Figure 3). The pedestrian is also equipped with street furniture in the form of lighting lamps and tub plants. Furthermore, visitors will be directed to the plaza as a node associated with a pedestrian middle. Node is equipped with a fountain as a water element in the site (Figure 4).



Figure 3. TOD Pinang Baris view

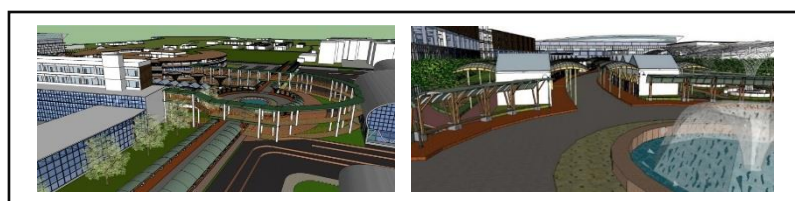


Figure 4. TOD Pinang Baris close-up view

3. Methodology

The method used in the design is the power to find the exact physical component of a physical structure. There are two types of design methods in architecture that is the traditional method called black box and the rational called glass box.

4. Result and Discussion

The search for the number of rooms to be made at the Hotel is from the forecast projection. First, with the geometric method to know the foreign tourists in North Sumatra with the prediction 12 years ahead, then see the average year occupancy rate of 49.9% then multiplied. After that divided by 2 with the type of activities into general people travel is a vacation or business.

Then the second projection is to target the addition of 10 percent of people from the Pinang Baris area. The hotel is not just a place to stay for tourists, but everyone could come for a weekend getaway, dinner, or just enjoy the pool and spa/sauna facilities. So, the total projection 1 and 2 are 20,637 people. Then by entering the number into the formula to get the number of beds. With the right calculation obtained total room is 128 rooms. Then proceed with the preparation of space program. Then the calculation of the parking lot is 158 slots for the car. The location of the hotel is very strategic because it is close to a big road that connects the area between regions and close to the western gate of Medan (Figure 5).

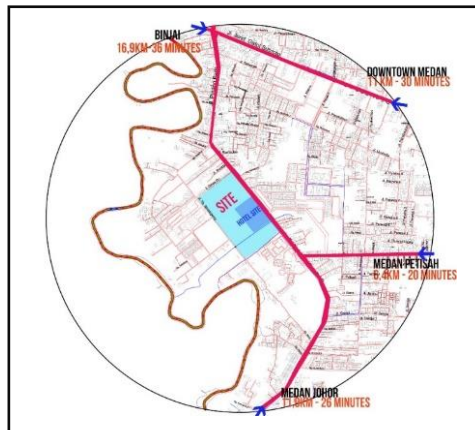


Figure 5. Achievement of the site

4.2 Building Mass Concept

In this hotel is divided into two main actors of the activity system that is guest visitors and scheme of management activities and hotel employees. Due to the integration between transit hotel and building functions within the commercial area, there are retails at the rear of the hotel.

Maximum building height is only four floors. With the provision of 80 percent of the land site built, then the building is made to breathe by dividing the two masses with open land in the middle (Figure 6). The addition of buffers at the front of the building as a direct solar radiation barrier, the facilities of red mass are ballroom, coffee shop, and bar (Figure 7). The connecting bridge is in the middle of mass 1 and mass 2, and maximum reforestation will be applied on the ground floor and some parts of the rooftop (Figure 8).

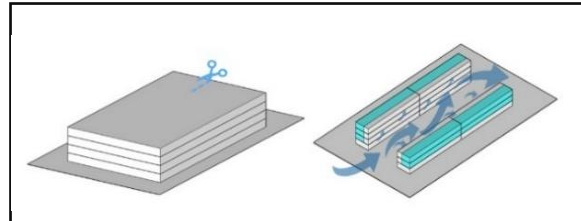


Figure 6. Building mass composition step 1

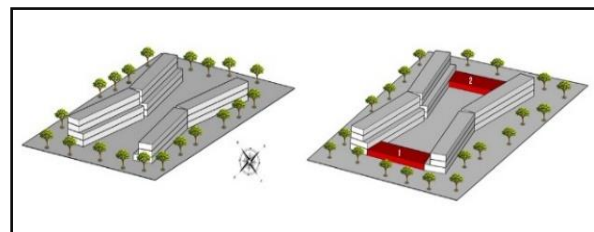


Figure 7. Building mass composition step 2

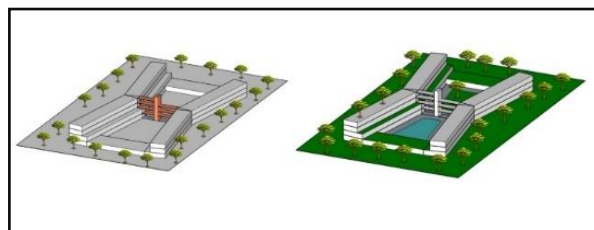


Figure 8. Final building mass

4.3 Circulation

The circulation within the hotel is divided into two parts, first is for the cars and second for the pedestrian. The location of the site is strategic because it is located at the gate of western Medan. The site is connected with four major roads, from Johor field with a distance of 11.9 KM travel time 26 Minutes, from Medan Petisah 6.4 KM travel time 20 minutes, from the center with 11 km travel time 30 minutes, and from Binjai with 16.9 KM travel time 36 minutes (Figure 9).

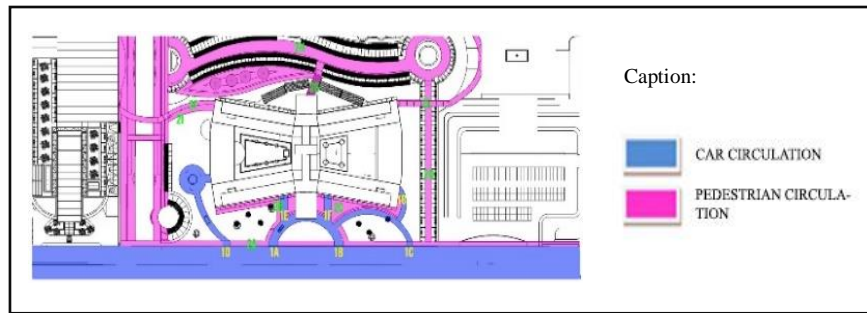


Figure 9. The Concept of site achievement.

4.4 Green Concept

The hotel itself applies green architecture concept; the concept used refers to 6 principles of green architecture created by Robert and Brenda Vale that is energy conservation, cooperate with climate, minimize new resources, appreciate the user and the site. Some of the advantages are to reduce the level of air pollution, the vegetation in the roof garden can filter air pollution, lower the air temperature, conserve water and reduce noise, and also can make the hotel environment becomes more beautiful.

In the case of minimizing new resources, the building needs environmentally friendly materials. Conwood is not the original wood, but the texture is beautiful like wood. Many advantages obtained for example are cost-effective, wood-like texture, free termites, can be sawn, easy to install, fireproof, and weather resistant (Figure 10).

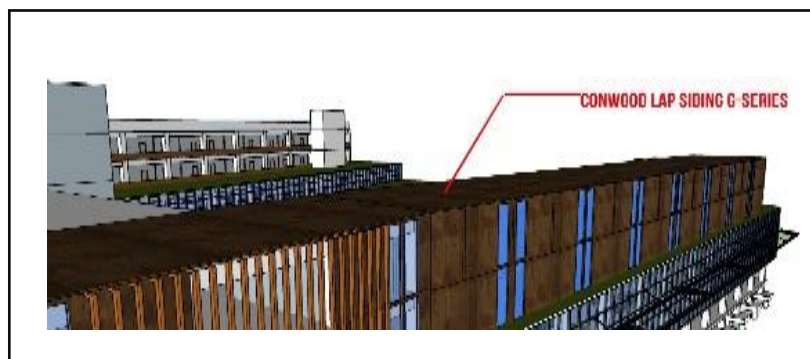


Figure 10. Application of conwood lap siding G-series

4.5 Inner Area

On this floor, there are car and motorcycle spaces, as well as mechanical and electrical spaces, and there are also security and engineer rooms as they are close to the main mechanical and electrical (Figure 11). All the room size of each office based on *Time Saver* [3]. There is an open space in the middle of the pool and indoor garden that can also function as a garden party that is directly related to the ballroom. The front of the right is a receptionist and a lounge. Spa and Sauna close to the pool and locker rooms, on the back side of the back-retail. On the back,

there is a corridor that permits the mall with Pinang Baris Terminal. On the left of the hotel are a lounge, food & beverage, indoor & outdoor bar, outdoor and indoor coffee shop (Figure 12).

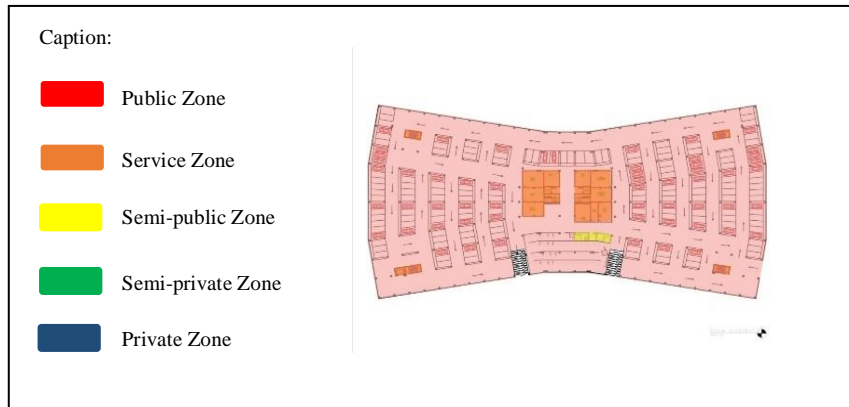


Figure 11. Basement plan

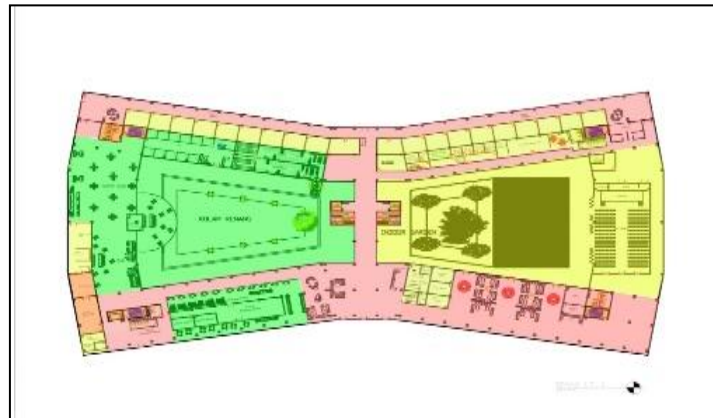


Figure 12. First Floor Plan

Back retail is located at the back of the same on the 1st-floor, in the green shaded area is the Gym facility area connected with the 1st-floor spa with stairs. On the rear right there is a laundry office, HRD position is direct to the employee locker room, to the right of the locker there is a toilet and praying room. On the bottom side of the mass that is private property containing guest room (Figure 13). On the 3rd floor, there is only a guestroom, with open corridors (Figure 14). The guest room is only on the back side (Figure 15). All room sizes are designed based on the space program which is contained in the book *Hotel Design, Planning, and development* [4].

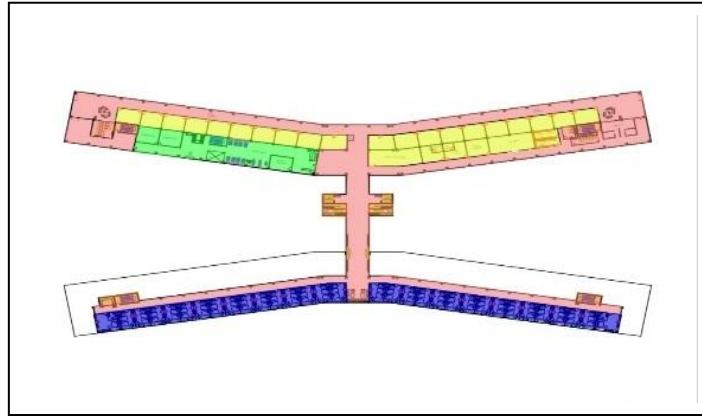


Figure 13. Second-floor plan

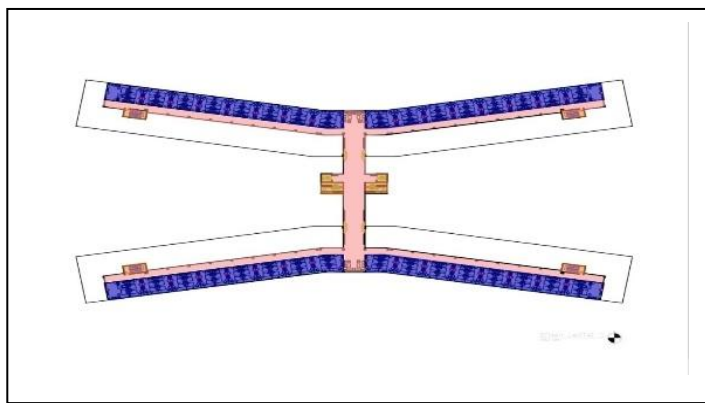


Figure 14. Third-floor plan

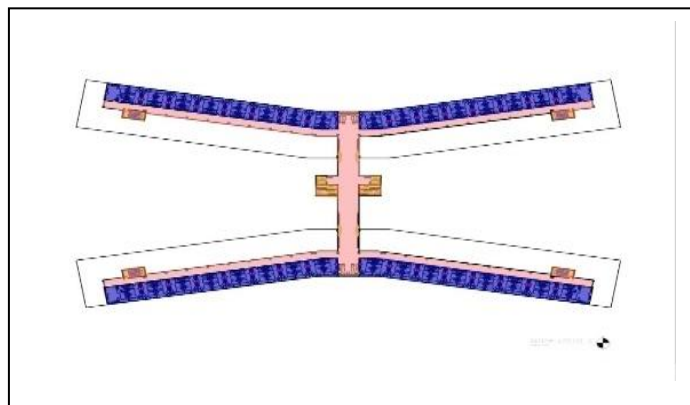


Figure 15. Fourth-plan floor

There are two types of rooms in this hotel (Figure 16), namely Deluxe Room and Standard Room, Deluxe Room room size 6x6m and size for Standard Room room measuring 6x4m [2]

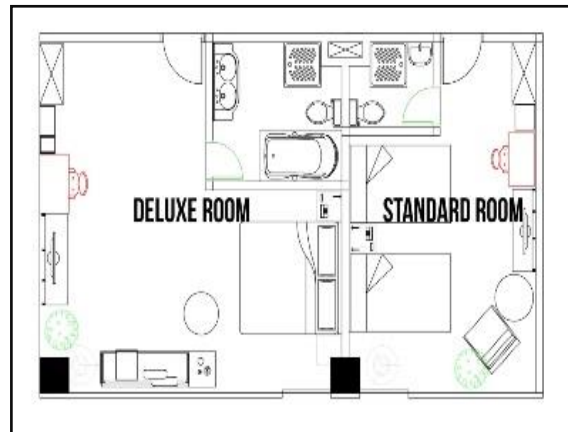


Figure 16. Guestroom

Green shaded area is a grass-covered open space free of grass, as a rainwater catchment area (Figure 17). The hotel is right in front of the big road T. B Simatupang, located next to Pinang Baris Terminal (Figure 18).

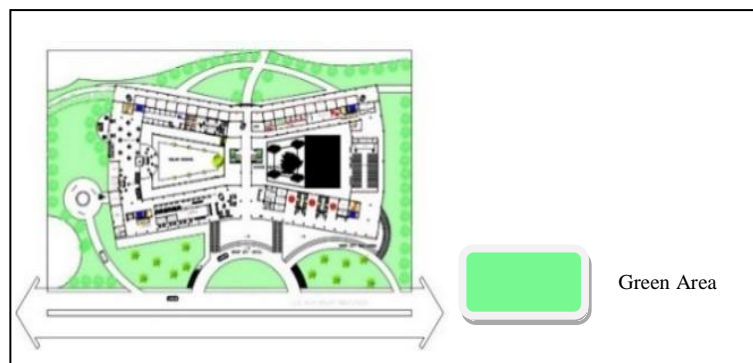


Figure 17. Outdoor area



Figure 18. Hotel view

To build an impressive inner space, there's to be a need of an image to make a building unique and will become a lure / pull for the occupants. So the designer brings a concept of space in the building by embracing an interior style that is Mid-Century Style, and it reflects in building interior (Figure 19). Rooms were made in Mid-century style with natural colors (Figure 20).

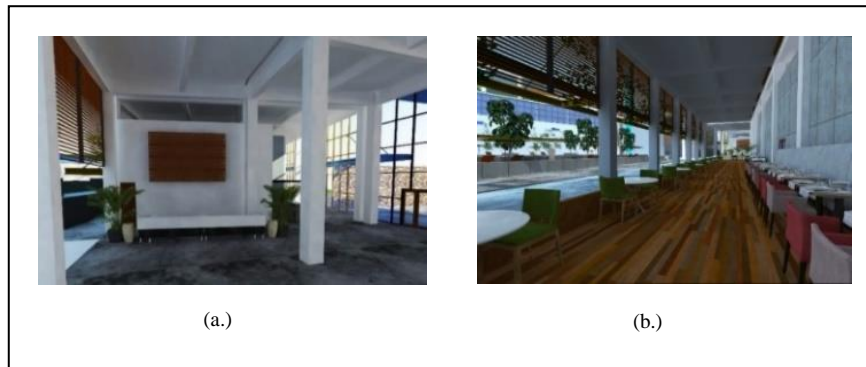


Figure 19. (a.) Lobby, (b.) Food & Beverage

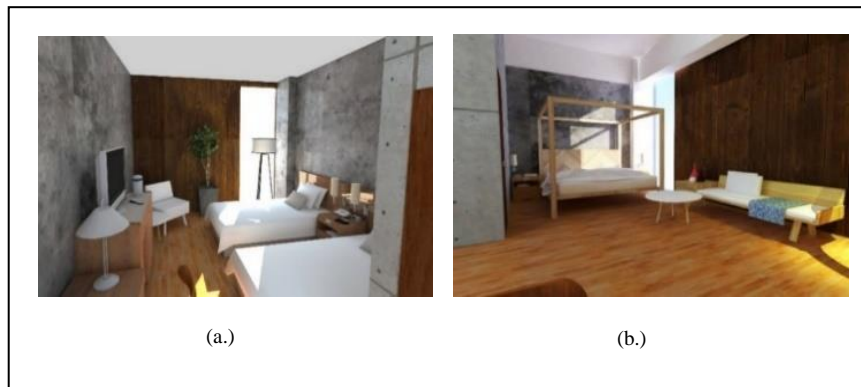


Figure 20. (a.) Standard room, (b.) Deluxe room

5. Conclusion

With various approaches of study analysis and literature accompanied by surveys will result in a study to solve the problems posed in designing Pinang Baris Transit Hotel in Transit Oriented Development Area of Pinang Baris. Transit Pinang Baris Hotel is expected to be a place to stay that can meet the needs of the visitors in the TOD Pinang Baris commercial area. And can be energy-efficient buildings because it applies the concept of green architecture, considering the earth is facing the issue of global warming.

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